

REMARKS

Claims 30-52 are currently pending in the present application. Favorable consideration and allowance of these claims are respectfully requested.

The objection to claim 47 for failing to further limit claim 30 is respectfully traversed.

Claim 30 is amended to recite that the gas analyzer is located between the source bottle and the reaction vessel rather than being between the node and the reaction vessel. Thus, the gas analyzer may be upstream or downstream of the node. Claim 47 recites that the gas analyzer is downstream of the node and therefore further limits claim 30, as amended. Reconsideration and withdrawal of this objection are therefore respectfully requested.

The rejection of claim 48 under 35 U.S.C. § 112, second paragraph, as indefinite is respectfully traversed.

As indicated above, claim 30 now recites that the gas analyzer is located between the source bottle and the reaction vessel rather than being between the node and the reaction vessel. Claim 48 recites that the gas analyzer is upstream of the node and is therefore consistent with amended claim 30. Reconsideration and withdrawal of this rejection are therefore respectfully requested.

The rejection of claims 30-34, 36, 40, 41, 47 and 51 under 35 U.S.C. § 102(b) over JP 47-10730 is respectfully traversed.

Claims 30 and 51 are amended to clarify that the first and second flow controllers are mass flow controllers. The use of mass flow controllers allows dilution of the source gas without changing the flow rate of the source gas from the source bottle. In particular, mass flow controllers are provided for the carrier gas line and the dilution gas line. As a result, it is possible to increase or decrease the flow rate of the dilution gas in the gas line without changing the carrier gas flow rate in the gas line in the upstream side of the source bottle.

The Office Action alleges that JP 47-10730 discloses mass flow controllers 23 and 24. At the time of this writing, the undersigned did not have a translation of the JP 47-10730 reference available. Although the undersigned does not read and understand Japanese, the assignee's representatives do and have indicated that the JP 47-10730 reference states that elements 23 and 24 of Figure 2 are regulation valves, not mass flow controllers.

In the construction of the device of JP 47-10730, valves 23 and 24 are provided to respective branched lines, which are branched out from a common line. As a result, if the flow through the common gas line is to remain constant, tightening of valve 23 to decrease the gas flow rate therethrough would require a corresponding increase of flow rate in the line in which valve 24 is provided. Similarly, tightening valve 24 to decrease the gas flow rate there would require a corresponding increase of flow rate in the line in which valve 23 is provided. Further, when both valves 23 and 24 are tightened simultaneously, if the amounts of gas flowing through the common gas line is to be maintained at a constant no decrease in the gas flow rate through valves 23 and 24 would be permitted. Similarly, if both valves 23 and 24 are fully opened, and the flow of gas through the common gas line is to remain unchanged, the flow of gas through valve 23 would have to be less than it might be if, for instance, valve 23 were opened and valve 24 fully closed. The valves 23 and 24, of the reference provide no way to achieve such control over the flow rate.

Thus, because the reference relies on the use of valves instead of mass flow controllers it is not possible to dilute the source gas in the gas line and at the same time maintain the flow rate of the source gas out of the source bottle at a constant as is the case with the present invention.

As such, the reference fails to disclose each and every element of the claimed invention and the anticipation rejection cannot be properly maintained. Reconsideration and withdrawal of this rejection are therefore respectfully requested.

The rejection of claims 30-34, 38-41, 47, 49, 51 and 52 under 35 U.S.C. § 102(b) over Tomita et al. (JP 2001-214270) is respectfully traversed.

Independent claims 30 and 51 require a controller which controls the mass flow controller in response to the output from the gas analyzer. The reference does not appear to describe such a controller. The Office Action alleges the document provides for “a controller 31 controlling the MFC 23, 24 . . .” *see* page 4 of the recent Office Action. However element 31 is described in the reference as a closing motion valve, *see* paragraph [0028] of the English translation, which is different from a controller as contemplated in the present claims.

Further, the Office Action does not clarify what elements in the reference correspond to the first mass controller in the vaporizing gas line and the second mass controller controlling the diluting gas. The reference appears to indicate that the source raw material evaporation section 15 is directly connected to the gas supply way 2 which is connected to the reaction chamber 1. As such, the arrangement disclosed in the reference does not show a diluting gas line connected to the source gas line at a node between the source bottle and the reaction vessel. Instead the diluting gas, which appears to come from 32 in the reference, is upstream of the source gas. The oxygen installation way 39 and closing valve 40, although they connect between the source bottle and the reaction vessel, do not meet the requirements of the claim, because the claim requires a second mass flow controller controlling the flow of the diluting gas. The reference appears to provide mass flow controllers, but they are all upstream of the source raw material evaporation section 15.

The remaining claims are all ultimately dependent from either claim 30 or 51 and include the limitations thereof. Thus, the reference fails to teach each and every element of the presently claimed invention and reconsideration and withdrawal of this rejection are respectfully requested.

The rejections of claims 35, 38 and 39 under 35 U.S.C. § 103(a) over JP 47-10730 in view of McMenamin (4,436,674); of claim 37 under 35 U.S.C. § 103(a) over JP 47-10730 in view of Ueda et al. (5,365,772); of claims 42 and 49 under 35 U.S.C. § 103(a) over JP 47-10730 in view of Satake et al. (JP 2001-234348); of claims 49 and 50 under 35 U.S.C. § 103(a) over JP 47-10730 in view of Holst et al. (2003/0056723 A1); of claims 43-46 under 35 U.S.C. § 103(a) over JP 47-10730 in view of Tokai et al. (2002/0014700 A1); of claim 48 under 35 U.S.C. § 103(a) over JP 47-10730 in view of O'Neill et al. (JP 07-188932); of claim 35 under 35 U.S.C. § 103(a) over Tomita et al. (JP 2001-214270) in view of McMenamin (4,436,674); of claim 37 under 35 U.S.C. § 103(a) over Tomita et al. (JP 2001-214270) in view of Ueda et al. (5,365,772); of claims 42 and 49 under 35 U.S.C. § 103(a) over Tomita et al. (JP 2001-214270) in view of Satake et al. (JP 2001-234348); of claims 49 and 50 under 35 U.S.C. § 103(a) over Tomita et al. (JP 2001-214270) in view of Holst et al. (2003/0056723 A1); of claims 43-46 under 35 U.S.C. § 103(a) over Tomita et al. (JP 2001-214270) in view of Tokai et al. (2002/0014700 A1); and of claim 48 under 35 U.S.C. § 103(a) over Tomita et al. (JP 2001-214270) in view of O'Neill et al. (JP 07-188932) are all respectfully traversed.

Each of these rejections relies on either JP 47-10730 or Tomita et al. (JP 2001-214270) as a primary reference. As explained above, neither of these references discloses each and every element of the claimed invention. Moreover, none of the secondary references relied on in the obviousness rejections make up for the failure of the primary reference to teach all the elements of the claimed invention. Similarly, there is nothing in the references, either alone or in the proposed combination, that would cause one of skill in the art to modify the teachings thereof as necessary to arrive at the claimed invention. Thus, as amended, the claims are allowable over the proposed combinations of references. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

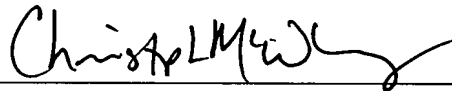
In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

Although a petition for an Extension of Time is submitted herewith, if necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket No. 010986.52578US).

Respectfully submitted,

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